

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/599,174 06/22/00 HAMILTON

T ACC0786P1US

JOAN M MCGILLYCUDDY
AKZO NOBEL INC
INTELLECTUAL PROPERTY DEPARTMENT
7 LIVINGSTONE AVENUE
DOBBS FERRY NY 10522-3408

IM71/0706

EXAMINER

CROCKFORD, K

ART UNIT

PAPER NUMBER

1762

DATE MAILED:

07/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/599,174

Applicant(s)

HAMILTON ET AL.

Examiner

Kirsten A Crockford

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Priority

1. The Examiner notes that the case is filed as a Continuation of PCT/GB98/03883, as per Applicant's Preliminary Amendment, and does not appear to be filed under 35 U.S.C. 371. A certified copy of the foreign priority document must be provided by the applicant if the parent international application has not entered the national stage under 35 U.S.C. 371. See MPEP 1895.01.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 5, 9, 10, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The use of "preferably" in claim 4, lines 5 and 7; in claim 5, "preferably" in line 6, "more especially" and "especially" in line 7, and "for example" in line 8; in claim 10, "preferably" and "more especially" in line 3; and in claim 30, "more especially" in line 2 renders the claims vague and indefinite. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

In claim 9, line 2, the use of "major" renders the claim vague and indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 93/13179.

The process and coating composition of WO '179 would inherently produce the substrate coated with a protective, fouling-inhibiting layer claimed by Applicant. While WO '179 provides its coating as one layer comprising two components (A) and (B), and Applicant's independent claim 1 provides the coating in two sequential coating steps -- layer (A) followed by layer (B) --, it is the Examiner's position that the coated substrate of both processes would necessarily be materially-similar. This is because, applied separately or together, components (A) and (B) react with one another via a condensation reaction, thereby effectively forming a single layer. Additionally, it is noted that WO '179 teaches that "the outermost surface region of the resulting coating is relatively rich in siloxane material, whereas the innermost region of the coating is relatively rich in the polymer of component (A), and it is believed that there will generally be a progressive increase in the concentration of siloxane material from the inner to the outer regions of the coating" (page 4, 1st full paragraph). Therefore, since WO '179 teaches that an amount of unreacted component (A) gravitates towards the substrate surface and an amount of unreacted component (B) gravitates towards the outer surface of the coating layer, it is further evidenced that the coating of WO '179 would be materially similar to a coating where a layer of

Art Unit: 1762

component (A) is first applied followed by a layer component (B) and there is a reaction between components (A) and (B) but there may be slight unreacted portions of (A) and (B).

6. Claims 1-4, 6-14, 16-21, 25-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Wegehaupt et al. (4,637,958).

Wegehaupt et al. discloses a method for applying protective, fouling-inhibiting coatings on a substrate comprising applying a first film-forming primer layer followed by applying a second fouling-inhibiting material layer, whereby the first and second layers crosslink via a condensation reaction. In order for crosslinking via a condensation reaction to occur, there are inherently functional groups present on the first primer layer that react with functional groups present on the second layer. Wegehaupt et al. teaches that the functional groups present on the primer layer are silicon-containing, as taught at col. 2, lines 47-66. The primer layer of Wegehaupt et al. comprising components (a) and (b) meet Applicant's claims directed to film-forming polymer composition (A) (see cols. 2-4). The diorganopolysiloxanes of Wegehaupt et al. meet Applicant's claims directed to fouling-inhibiting layer (B) (see col. 5). As to claims 25 and 26, Wegehaupt et al. teaches the use of catalysts and crosslinking agents in col. 6. Further, as to claims 27-29, Wegehaupt et al. teaches that the coatings of its invention may be used on ship hulls, sea mines, and may be applied to existing tar or pitch coatings (col. 1, and col. 7, lines 18-23).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/13179 alone or over WO 93/13179 in view of Wegehaupt et al. (4,637,958).

WO '179 discloses all of the limitations of claims 1-30, except the method of WO '179 discloses applying its composition as a single layer comprising both components (A) and (B) and then reacting the two components by a condensation curing reaction, instead of Applicant's claimed method of first applying film-forming polymer component (A) as a first layer followed by applying fouling-inhibiting material component (B) as a second layer and then reacting the components/layers by a condensation curing reaction. Component (A) taught by WO '179 meets Applicant's claims directed to layer (A) and component (B) of WO '179 meets Applicant's claims directed to layer (B). WO '179 teaches at the bottom of page 23 that "a two-pack system may be used. Thus, for example, the polymer component (A) can be packaged separately from the polysiloxane (B)". This statement provides evidence that the two components are separate and individual components that are independently stable and may be packaged independent of one another. Additionally, WO '179 teaches that "the outermost surface region of the resulting coating is relatively rich in siloxane material, whereas the innermost region of the coating is relatively rich in the polymer of component (A), and it is believed that there will generally be a progressive increase in the concentration of siloxane material from the inner to the outer regions

Art Unit: 1762

of the coating” (page 4, 1st full paragraph). Since WO ‘179 teaches that the components react, however they still separate somewhat by an amount of unreacted component (A) gravitating towards the substrate surface and an amount of unreacted component (B) gravitating towards the outer surface of the coating, it appears that the products produced by the methods of WO ‘179 and the instant invention would necessarily be materially similar even if the layers (A) and (B) of the instant invention do not fully react with one another. In addition, one of ordinary skill in the art would have been motivated to apply components (A) and (B) as separate layers in order to prevent premature crosslinking of the components, therefore making application difficult or impossible. It is the Examiner’s position that it would have been obvious to one having ordinary skill in the art to have first applied component (A) of WO ‘179 as a first layer, followed by applying component (B) as a second layer on top of the first layer, with the expectation of achieving a materially-similar product as that achieved through the process of WO ‘179 and preventing premature crosslinking between the two layers before their application. In general, the transposition of process steps or the splitting of one step into two, where the processes are substantially identical or equivalent in terms of function, manner and result, was held to not patentably distinguish the processes. *Ex parte Rubin*, 128 USPQ 440 (Bd. Pat. App. 1959).

Additionally, it is noted that Wegehaupt et al. discloses a method for providing a protective and foul-inhibiting coating to marine surfaces (such as ship hulls) whereby a first primer film-forming polymer layer is applied followed by a second foul-inhibiting layer, and a condensation reaction takes place between the two layers after application. In addition to the reasons stated above, it would have been obvious for one having ordinary skill in the art to have applied a first layer comprising component (A) of WO ‘179’s composition (a film-forming

Art Unit: 1762

polymer layer) followed by a second layer comprising component (B) of WO '179's composition with the expectation of successful results since both Wegehaupt et al. and WO '179 are similarly related to providing foul-inhibiting coatings on marine surfaces and because the components of both WO '179 and Wegehaupt et al. crosslink via a condensation reaction.

9. Claims 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wegehaupt et al. (4,637,958).

Wegehaupt et al. does not disclose the molecular weights of its primer and diorganopolysiloxane coatings. It would have been obvious for one having ordinary skill in the art to have determined the optimum molecular weights of the polymeric coatings in its invention through routine experimentation, depending on the desired degree of crosslinking and strength needed, in the absence of a showing of criticality. *In re Aller*, USPQ 233 (CCPA 1955).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bingham (4,133,938), Nakamura et al. (5,985,012), Stein (6,180,249), Stein et al. (5,904,988), and Yamaki et al. (5,902,851) are cited to demonstrate the state of the art of the claimed invention.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten A Crockford whose telephone number is 703-306-5461. The examiner can normally be reached on Monday to Thursday and every other Friday.

Art Unit: 1762

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1495.

kac
July 1, 2001



SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700